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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,377	03/12/2004	Peter Kreuter	4842-0102PUS1	5651
2292	7590	03/31/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			ALI, HYDER	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/798,377	Applicant(s) KREUTER ET AL.	
	Examiner HYDER ALI	Art Unit 3747	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 12-17 and 20-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/4/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Inventorship

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3,5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhoads (US 4,274,369).

As to Claim 1, Rhoads discloses an internal combustion engine comprising: a crank drive 22 rotatably disposed within an engine housing, at least one double cylinder unit defined within the engine housing, the double cylinder unit comprising at least two individual cylinders 10,12, a piston reciprocally movable within each individual cylinder, wherein each piston includes a piston head and the pistons are connected to the crank drive 22 such the pistons reciprocate in the same direction within the individual cylinders 10,12, and a cylinder space defined within each individual cylinder on the side of the piston head that is opposite of the crank drive, wherein a communication path is provided that interconnects the cylinder spaces during at least a portion of the reciprocal movement of the pistons 18,20.

As to Claim 2, Rhoads discloses the crank drive 22 is arranged and constructed such that the pistons 18,20 are located at their top dead center position at the same time.

As to Claim 3, Rhoads discloses the crank drive 22 comprises a crankshaft with a crank having first and second crank pin portions, each crank pin portion having a longitudinal axis, wherein one end of a connecting rod is connected to the piston and another end of the connecting rod is connected to one of the first and second crank pin portions, and wherein the longitudinal axes of the crank pin sections are offset with respect to each other such that the connecting rods reach their extended position at the same time.

As to Claim 5, Rhoads discloses the individual cylinders have respective longitudinal axes that are axially and radially offset with respect to each other relative to a rotational axis of the crank drive.

As to Claim 6, Rhoads discloses the individual cylinders have longitudinal axes that are parallel to each other.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Document (DE 21 22 523).

As to Claim 1, Document (DE 21 22 523) discloses an internal combustion engine comprising: a crank drive 6 rotatably disposed within an engine housing, at least one double cylinder unit defined within the engine housing, the double cylinder unit comprising at least two individual cylinders, a piston reciprocally movable within each individual cylinder, wherein each piston includes a piston head and the pistons are connected to the crank drive 6 such the pistons reciprocate in the same direction within the individual cylinders, and a cylinder space defined within each individual cylinder on the side of the piston head that is opposite of the crank drive, wherein a communication path is provided that interconnects the cylinder spaces during at least a portion of the reciprocal movement of the pistons 1,3.

3. Claims 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Hendriksma et al (US 6,668,779).

As to Claim 18, Hendriksma et al discloses an apparatus for adjusting a valve stroke function of at least one valve of an internal combustion engine, comprising: a camshaft 27 having a first cam 23 and a second cam 25, a valve lever 12 pivotally

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mounted on a mechanically fixed component and being supported on the stem 24 of a valve, wherein the valve lever 12 comprises an interlocking mechanism, a first follower lever 46a pivotally attached to the valve lever 12 and being arranged and constructed to follow the first cam 23, a second follower lever 46b attached to the valve lever and being arranged and constructed to follow the second cam 25, and the interlocking mechanism is arranged and constructed to selectively rigidly connect one of the first follower lever 46a and the second follower lever 46b to the valve lever 12, wherein when the first follower lever 46a is interlocked with the valve lever 12, the valve is actuated in accordance with the first cam 23 and, when the second follower lever 46b is interlocked with the valve lever 12, the valve is actuated in accordance with the second cam 25.

As to Claim 19, Hendriksma et al discloses the valve lever 12 is mounted on a mechanically fixed, hydraulic clearance-compensating element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Document (DE 21 22 523) in view of Document (DE 10 48 738)

Document (DE 21 22 523) discloses the limitation as sets forth in claim 1.

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Document (DE 21 22 523) does not disclose simultaneous position of the pistons as claimed in claims 2.

Document (DE 10 48 738) discloses simultaneous position of the pistons.

It would have been obvious to a person having ordinary skill in the art to modify

Document (DE 21 22 523) by employing simultaneous position of the pistons so that the pistons are located at their top dead center position at the same time.

With regard to claim 3, Document (DE 21 22 523) does not disclose connecting rods reach their extended position at the same time, but Document (DE 10 48 738) discloses connecting rods reach their extended position at the same time. It would have been obvious to a person having ordinary skill in the art to modify Document (DE 21 22 523) by employing connecting rods reach their extended position at the same time in order to provide engine wherein connecting rods reach their extended position at the same time.

With regard to claim 4, Document (DE 10 48 738) discloses a bridge member 42.

With regard to claims 5 and 6, Document (DE 10 48 738) discloses location of the single cylinders.

5. Claims 7,8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Document (DE 21 22 523) in view of Document (DE 490 735).

Document (DE 21 22 523) discloses the limitation as sets forth in claim 1.

Document (DE 21 22 523) does not disclose the individual cylinders have longitudinal axes that are not parallel to each other as claimed in claim 7.

Document (DE 490 735) discloses the individual cylinders have longitudinal axes that are not parallel to each other.

It would have been obvious to a person having ordinary skill in the art to modify Document (DE 21 22 523) by employing the individual cylinders have longitudinal axes that are not parallel to each other in order to provide an engine with inclined location of the cylinders with respect to the crank shaft.

With regard to claim 8, Document (DE 490 735) discloses common burning chamber 8.

With regard to claim 11, Document (DE 490 735) discloses slit 10 in the single cylinders.

Allowable Subject Matter

Claims 9,10,12-17 and 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HYDER ALI whose telephone number is (571) 272-4836. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HENRY YUEN can be reached on (571) 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hyden H.

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